Narratives

Research Objectives, Background, and Conceptual Framework

Note: Tables and Figures are crucial to this proposal. They are called out in the text below as citations to tables and figures that can be reached through a link provided in the references and relevant publications documents.

---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----

How can local administrative or digital networking data complement and extend our existing survey measures of social capital at the community level? Does social capital at the community level influence important economic and health outcomes? Or does the economic well-being or health of a community influence levels of social capital? These questions, as well as others related to civic engagement, social capital, and related outcomes, will be addressed in the project proposed here.

People's civic engagement, their networks and association memberships, and the social capital of their communities strongly affect their quality of life. Further, the social capital of communities-high levels of engagement in community organizations; connectedness with friends and neighbors; and positive attitudes toward neighbors and others-is argued to positively affect social, economic and health outcomes. But we do not have strong, community-level measures of social capital or civic engagement that can be used by academic researchers and local politicians, administrators, activists, and citizens. And we do not yet have scientifically-rigorous evidence for the effect of community-level civic engagement and social capital on community-level economic or health outcomes. Our current understanding of the impact of social capital is limited by inappropriately high levels of aggregation and a lack of attention to causality.

In this project, I first propose to use a measurement technique -- Confirmatory Factor Analysis -- to test new county-level measures of social capital and civic engagement drawn from the IRS, the Census, CNCS, Meetup.com and Google and integrate them with existing measures drawn from supplements to the Current Population Survey. The goal of the first part of the project is to create a rigorous county-level measure of social capital that can be tracked over time. Then, the project would test whether county-level social capital influences several important economic and health outcomes. Using a longitudinal cross-lagged panel design, I will be able to test for an influence of social capital on economic and health outcomes while acknowledging the likely reciprocal relationship from economic well-being and health back to social capital. The project will produce a longitudinal measure of civic engagement and social capital of use to a wide range of researchers and practitioners and well as provide scientifically-rigorous knowledge about what outcomes social capital can really influence.

The project therefore falls in the scholar category and corresponds two of the priority areas identified

by the Corporation for National and Community Service: "Economic benefits of national service, volunteering, and civic engagement," and "Measuring and exploring relationships among civic engagement, national service, and volunteering." In addition, as outlined in the next section, the project corresponds closely to several of the recommendations of the National Research Council report, Civic Engagement and Social Cohesion: Measuring Dimensions of Social Capital to Inform Policy, of which the PI was a panel member.

BACKGROUND

The Corporation for National and Community Service (CNCS) worked with the Committee on National Statistics and the National Research Council of the National Academies (NRC) to create a panel "to identify measurement approaches that can lead to improved understanding of civic engagement, social cohesion, and social capital-and their potential role in explaining the functioning of society" (Prewitt et al. 2014:1). The NRC report, Civic Engagement and Social Cohesion: Measuring Dimensions of Social Capital to Inform Policy, was the result. The report made several recommendations relevant to this proposal.

To begin, the panel recognized that social capital and civic engagement are general concepts that cannot be captured with just one variable. To date, a major source of information on social capital and civic engagement in the United States have been the Volunteer and Civic Engagement supplements to the CPS. But decreasing response rates and limited space on national surveys suggest a need for new alternative measures of social capital and civic engagement. The NRC panel suggested that administrative and other kinds of records are an obvious alternative source of data on communities. Combined with and complementing the CPS survey data, these new sources of data would allow for better measurement of a complex concept. In short, the panel's first recommendation was: "For data collection in areas of social capital, a multipronged strategy should be pursued in which large population surveys...play a role, but one that is increasingly complemented and supplemented by new, innovative, experimental alternatives and the exploitation of non-survey sources ranging from administrative data...to digital communications and networking data that are amenable to community-level analyses." (Prewitt et al 2014: 5-6).

Better measurement of social capital and civic engagement at the community level is an end in itself. But policy-makers would also like to know how other outcomes are related to their community's civic engagement or social capital. Unfortunately, after an extensive review of the literature, the NAS report concluded, and "Our interpretation of this literature is that-with the exception of social isolation as a risk factor for health-compelling evidence of causal relationships between social capital indicators

and outcomes of policy interest has not yet been established, though insightful information about correlative associations often has been." (p.73)

Why is this the case? There are two reasons. First, to truly understand the causes and consequences of social capital, we need to measure it at a level that corresponds to people's lived experiences. Too many studies of social capital in the United States have looked at the state level, which is simply too highly aggregated to be of use to community policymakers. What is interesting and valuable about social capital takes place at the level of neighborhoods or communities (Coleman 1988; Putnam 1993, 2000; Sampson, Raudenbush, and Earls 1997). A key benefit to combining individual-level survey information with administrative, digital, and other sources is that it can provide more fine-grained data about communities. That is, combining survey data with additional records can better estimates at the community or neighborhood level.

Second, prior research rarely makes use of experimental, quasi-experimental, or longitudinal designs, and therefore remains only correlative. Longitudinal data are needed to distinguish the direction of causality between social capital / civic engagement and outcomes like health or unemployment. Reverse causation is quite likely. For example, does isolation lead to poor mental or physical health or do people with poor mental or physical health end up leading more isolated lives? To address these issues, the panel recommended: "...statistical and funding agencies should take an experimental approach, sponsoring studies at the subnational level and in-depth and longitudinal pilot data collections." (Prewitt et al 2014:9).

How then can we obtain longitudinal, small-area data? In an era where the collection of "big data" has never been easier, administrative records are increasingly available through bulk downloads and anything we can see on a webpage can be scraped off that page for use in research. But the NRC report acknowledged an important truth about this data: "while alternative data collection and analysis methods are no doubt flourishing, establishing the statistical validity of estimates based on "big data" sources is in its infancy" (p.11) Therefore, the panel made another recommendation: "the federal statistical system should accelerate (1) research designed to understand the quality of statistics derived from alternative data-including those from social media, other Web-based and digital sources, and administrative records; (2) monitoring of data from a range of private and public sources that have potential to complement or supplement existing measures and surveys" (Prewitt et al 2014: 12).

To briefly summarize, the NRC report Civic Engagement and Social Cohesion: Measuring Dimensions of Social Capital to Inform Policy recommended that national-level survey data on civic engagement be complemented with administrative and other digital records to create high-quality,

community-level, longitudinal measures of civic engagement and social capital that can be causally related to other important community-level outcomes like employment, job creation, and physical and mental health. The proposed project addresses this recommendation.

Research Design and Work Plan

The proposed project has two overarching goals. First, I propose to develop and validate a multiple-indicator, community-level measure of social capital. This first part of the project involves a substantial data collection phase. As outlined in detail below, I will collect data on social capital and civic engagement across United States counties over time. In addition to existing survey-based data from the Current Population Survey, I will collect non-survey data from the IRS, the Census, CNCS, and several digital sources. Using Confirmatory Factor Analysis, I will test and modify an initial theoretical model of social capital with the goal of producing a valid and reliable county-level measure of social capital. The end result of the first part of the project will be a measure or measures of use to community leaders, policy-makers, academic researchers, activists, and educators. A dataset will contain each individual variable as well as the final measure(s) for counties going back over ten years, with the ability to continue tracking into the future.

Second, I propose to relate the new community-level measure of social capital to several economic and health outcomes with a focus on untangling causality through modeling longitudinal, reciprocal relationships. Specifically, I will use cross-lagged panels to assess the likely reciprocal relationship between social capital and economic outcomes like unemployment, minority-owned businesses, and community levels of poor physical health and depression. As discussed below, I have already identified all necessary sources of data for all parts of the project.

A Brief Definition of Social Capital

I follow the NRC report and define social capital generally, as high levels of engagement in community organizations; connectedness with friends and neighbors; and positive attitudes toward others (Bourdieu 1985; Coleman 1988; Putnam 1993, 2000; Paxton 1999). When present, social capital is hypothesized to facilitate the production of individual or collective goods (Coleman 1988; Paxton 2002). For example, social capital in the form of network ties and trust among neighbors can be seen either as a benefit for individuals, who can freely walk the streets, or as a benefit to the community as a whole in the form of reduced crime rates. This definition is general: Social capital can be measured at multiple levels and produce goods at multiple levels (i.e., at the individual, group, and community levels). For this project, I focus on social capital as an aggregate feature of communities and consider its effect on the creation and maintenance of economic, physical, and mental health.

Narratives

Measurement of Social Capital at the County Level

As noted in the NRC report, a theoretical concept like social capital cannot be measured directly. However, using multiple indicators of the theoretical concept in a measurement model (a Confirmatory Factor Analysis) will allow us to estimate a scale of indicators that best captures the latent, general concept. In the next paragraphs, I discuss several sources of data on social capital.

--Survey Based Measures

To begin, we have survey measures designed to capture volunteering and civic engagement. Current Population Survey Supplements: An important source of data on social capital and civic engagement in the United States comes from several supplements to the Current Population Survey (CPS). Data on volunteering were first collected in the 1989 CPS; annual collection began with the September 2002 CPS supplement. The CPS Civic Engagement Supplement -- fielded in 2008, 2009, 2010, 2011, and 2013 -- provides information on level of participation in organized groups, extent of political action and knowledge, and extent of connections with other community members. The Corporation for National and Community Service has worked extensively with these data over the years and any measure of social capital should incorporate at least some of the questions.

The sample sizes for the CPS in a single year cannot provide county-level estimates. However, I propose to combine years of data to allow either direct or indirect (synthetic or composite and borrowing strength from sample observations of related areas) estimation of county small-area properties. Data on volunteering, attending public meetings, and working to solve community problems are available annually since 2002. This suggests that three over-time county-level estimates are possible: those for the circa 2004 (2002-2006) period, as well as circa 2008 (2006-2010) and circa 2012 (2010-2014).1 Other data, on participation in groups (church, school, sports, service, other), trust in neighbors, talking with neighbors, and number of close friends are only available since 2008. With this, we can get two over-time county-level estimates for 2008-2010 and 2011-2013.

--Administrative Records

Administrative records provide another source of data on social capital and civic engagement at the county level. Per Capita Counts of Nonprofits: The Internal Revenue Service collects information from all active nonprofits that have registered for tax exempt status and this data is compiled by the National Center for Charitable Statistics (NCCS) at the Urban Institute (http://nccs.urban.org/index.cfm). The data available from the NCCS includes all 501(c)(3) public charities who report gross receipts of at least $50,000. For those that report less than $50,000 we would be able to request a customized dataset with our variables of interest. From this data we can

construct county-level and per capita counts for nonprofit organizations discriminating by their size (based on revenues), sources of funding (whether primarily funded through contributions or government grants), and their major and minor area classification through National Taxonomy of Exempt Entities (NTEE) codes.

NTEE codes are used by the IRS to classify organizations based on the services they provide, and this information is cleaned and compiled by the NCCS in their datasets. The use of NTEE codes will allow us to classify nonprofit organizations based on their service areas with 9 major classifications including Arts, Culture, and Humanities; Education; and Religion Related. Within these major codes there are over 500 codes which allow a level of specification that includes amateur sports organizations, charter schools, youth centers and clubs, and neighborhood and block associations (http://nccsdataweb.urban.org/kbfiles/324/NTEE_Two_Page_2005.pdf). These codes are important because they will allow us to explore the types of nonprofits that best reflect community civic engagement or social capital.

Further, because the NCCS data is derived from tax form 990's, we can also distinguish among those using volunteers from those that do not. Nonprofit organizations that do not engage in volunteer activity may potentially contribute less to the construction of social capital than organizations that maintain a community of volunteers.

Per Capita Counts of Civic and Social Organizations: Another source of data comes from the Census Bureau's County Business Patterns. This is a yearly series that extracts information from the Business Register to provide information on all businesses with paid employees. It is available at the county (and zip code) level. Importantly, the data are broken out by the 6-digit NAICS industry code. NAICS industry code 813 includes all "Religious, Grantmaking, Civic, Professional, and Similar Organizations." Delineated even further, within the 813 code there is the 813410 civic and social organizations code. This code is used for organizations that are member-oriented, like fraternal lodges, parent-teacher associations, scouting organizations, etc. Thus, we can get raw and per capita counts of businesses classified as civic or social.2

AmeriCorps number of programs and number or participants: Working with CNCS staff, I would like to include a county-level measure of the counts and per capita counts of AmeriCorps programs and participants. This data is at least available by city in each of the 50 states.3

--Digital Data

Digital data provide a final source of data on social capital and civic engagement for counties. Number of Members of Meetup Groups: An important new source of associating is available through

Meetup.com, a website designed to facilitate in-person associating. Developed in the aftermath of 9/11, the explicit purpose of Meetup.com is to "use the internet to get off the internet -- and grow local communities" (Heiferman 2011). In brief, Meetup provides a platform for individuals to form and join in person voluntary associations online. Since its origin in 2002, Meetup has grown to encompass millions of people in hundreds of cities, suburbs, and small towns across the U.S. Meetup enables individuals to create and join voluntary associations on topics ranging from web design to book clubs, from playdates for stay-at-home moms to wine-tasting groups.

Meetup maintains a comprehensive data set on the entire population of Meetup groups, members, zip codes, and topics. We are able to download these data using the Meetup Application Programming Interface (API). Using the Meetup-provided API, we can access population information on all Meetup groups in a range of cities and counties, at different points in time. Thus, we would collect complete (population) data on all Meetup groups across physical communities in the U.S. every six months over the period of the grant (approximately six longitudinal time points).4

Counts / Per Capita Counts of Nonprofits and Volunteer Organizations: Google Maps draws from a database of 100 million Google Places and Google+ Business Pages. Google+ Business Pages are categorized extremely finely, including "non-profit organization" and "volunteer organization" categories. Thus, a Google Maps search of "nonprofit" will return all organizations listed as nonprofits.5 Since organizations can classify themselves, regardless of size, a Google Maps search is likely to reveal more, and smaller, nonprofits than the IRS data. Further, use of the volunteer category will allow us to distinguish between nonprofits that use volunteers and those that do not.

Google Maps has an Application Programming Interface (API) and there are existing data scraping programs designed to scrape data off Google Maps into databases. An exploratory set of searches around Austin, TX suggests this data source will complement and extend the other sources of data.

Table 1 summarizes the data sources I have identified to create a county-level, longitudinal measure of civic engagement and social capital (Paxton 2015,TABLE 1).6

A Measurement Model

It is imperative to combine these measures together to create a single scale, or small set of scales that measure the latent concept, social capital. I propose to use Confirmatory Factor Analysis (CFA) to create the measurement models. Confirmatory Factor Analysis allows us to combine multiple observed indicators to best represent our theoretical concepts. The initial measurement model will model all possible survey, administrative, and digital variables in an anchoring year -- circa 2014 (2012-2015) -- the only period in which all variables currently overlap. After examining the fit of the

model and its psychometric properties, I will create a scale that can be used going forward. Further, I will create a scale measured at three earlier time points-circa 2004, circa 2008 and circa 2012, that can be matched in a cross-lagged panel design to various outcome variables. Thus, we will have a measure (likely without digital data) that extends backward in time, as well as a measure, using all possible data, extending forward in time. Figure 1 provides an example of one possible CFA of social capital in the anchoring year (Paxton 2015, FIGURE 1).

Path diagrams like Figure 1 include observed variables in boxes and latent (unmeasured, theoretical) concepts in ovals. Arrows indicate direction of influence and curved, two-headed arrows indicate correlation. Besides the ability to combine observed indicators to measure latent theoretical concepts, Confirmatory Factor Analysis is desirable because it acknowledges and measures measurement error-something we would expect in a concept like social capital. Measurement error is indicated by the delta's in Figure 1. Note also that in addition to the latent theoretical concept, social capital, Figure 1 includes three "method factors." The observed indicators of social capital are drawn from three distinct methods which need to be accounted for in our measurement. (See Bollen and Paxton (1998) for a discussion of measurement with method factors.) Finally, note that with Confirmatory Factor Analysis significant flexibility is possible. So, if the CPS questions were discontinued, we could re-calibrate the measure to use the weighted combination of only administrative and digital data that best captured the latent concept.

SOCIAL CAPITAL, ECONOMIC OPPORTUNITIES, AND HEALTH

Despite longtime theoretical interest in the relationship between civic engagement, social capital, and a wide range of outcomes, as well as the obvious policy implications of such a relationship, little quantitative empirical evidence exists to support the idea that civic engagement or social capital affects economic or health outcomes. Some quantitative evidence does exist, but this research is often undertaken at too high a level of aggregation -- such as the state level -- rather than a level corresponding to people¿s day-to-day lives-their community (e.g., Herian, Tay, Hamm, and Diener 2014; see Murayama, Fujiwara, and Kawachi 2012 for a review of the problem). Further, most empirical work does not incorporate the likely reciprocal effect of a community's economic well-being or health on social capital. A reciprocal effect is quite plausible because economically healthy communities and communities with individuals in good physical and mental health should increase engagement with voluntary associations or the formation of nonprofits. While most theories stress the social capital-to-outcomes causal path, various authors have noted the potential for reciprocal relationships (Paxton 2002; Rosenfeld, Messner, and Baumer 2001; Knack and Keefer 1997; Levi

1996; Rahn, Brehm, and Carlson 1999). Thus, the second goal of this project is to determine whether social capital matters to economic and health outcomes, acknowledging reciprocal effects.

Data on Economies

As described in Table 2, there is a range of economic data available at the county level over time including unemployment, numbers of businesses, job growth, and counts of minority-, women-, and veteran-owned businesses (Paxton 2015,TABLE 2).

Based on theories of social capital as well as some prior research, we expect that high levels of social capital in a community will lead to better economic outcomes (e.g., Woolcock 1998; Knack and Keefer 1997; Woolcock and Narayan 2000). James Coleman's (1988) discussion of diamond merchants in New York is a good example of how social capital facilitates the production of economic goods. With social capital, individuals and businesses can use connections and trust to reduce the need for third-party enforcement and monitoring of activities, making businesses easier to found and grow.

We would also expect a reciprocal effect -- that a healthier economic climate could increase a community's level of social capital. A healthy economy provides the population of a county with more, so social and civic organizations should flourish and citizens feel more inclined to trust because they have less to lose. On the flip side, economic disadvantage reduces an individual¿s sense of the predictability of the world and the reliability of others. Having fewer resources makes it riskier to trust others (Whiteley 1999; Putnam 2000; Newton 1999) and we expect fewer associations and groups.

All of the economic data is always classified by industry using the North American Industry Classification System (NAICS). The industry breakdown includes: Agriculture, Forestry, Fishing and Hunting; Mining, Quarrying, and Oil and Gas Extraction; Utilities; Construction; Manufacturing; Wholesale Trade; Retail Trade; Transportation and Warehousing; Information; Finance and Insurance; Real Estate and Rental and Leasing; Professional, Scientific, and Technical Services; Management of Companies and Enterprises; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; Arts, Entertainment, and Recreation; Accommodation and Food Services; Other Services (except Public Administration); Public Administration.

In additional to general hypotheses, the NAICS industry classification will allow more specific hypotheses about whether social capital influences certain industries more strongly (or visa versa). There are industries where we would expect social capital to be particularly beneficial, e.g., Educational Services; Health Care and Social Assistance; and Arts, Entertainment, and Recreation. Thinking reciprocally, these are also the industries that we would expect to influence social capital

more directly than others. Thus, we expect the reciprocal relationship between social capital and economic opportunity to be stronger in certain industries.

Health Data

The best source of county health data is the Center for Disease Control's Behavioral Risk Factor Surveillance System (BRFSS) (www.cdc.gov/brfss/). This data has been collected through individual surveys yearly since 1984 and the county health rankings project compiles the information at the county level for public use. Table 3 outlines several relevant measures of physical and mental health available in this data source (more are available) (Paxton 2015,TABLE 3).

Some prior research has demonstrated that high levels of social capital in a community will lead to better health outcomes (e.g., Kawachi, Kennedy, and Glass 1999; Veenstra 2000; Mohnen, Groenewegen, and Volker 2011; Herian, Tay, Hamm, and Diener 2014). Murayama, Fujiwara, and Kawachi (2012) provide a review of research connecting social capital to mortality, self-rated health, health behavior, and depression. Briefly, social capital is hypothesized to promote health through easier diffusion of health information, trust in health authorities, and increased levels of social support. But almost no prior research has considered the reciprocal effect from heath back to social capital. Such a reciprocal effect is quite likely-health individuals are in a better position to participate in groups, develop connections, etc. By not modeling this reciprocal effect, this prior research is probably seriously misestimating the effect of social capital on health. A true and accurate model of the relationship between social capital and health must acknowledge its reciprocal nature.

Longitudinal Model

To assess the reciprocal relationship between social capital and health, and social capital and economic outcomes, I propose to model them using a longitudinal cross-lagged panel design. With multiple measurements over time, this model allows social capital in one period to influence an economic (or health) outcome in the next. Simultaneously, economic opportunity in one period influences social capital in the next period.

Figure 2 displays an example cross-lagged panel model for the relationship between social capital and unemployment (Paxton 2015, FIGURE 2). The core of the path diagram (bolded arrows) illustrates the reciprocal relationship between social capital and one possible outcome variable-unemployment. Social capital in the prior period is hypothesized to influence employment in the next. The reverse is also modeled with unemployment influencing social capital in the next period. A set of demographic, social, economic, and ecological controls in the earliest time period affect both social capital and unemployment in the next period.7 Each equation includes an error (zetas) and these are

correlated (two-headed arrows) to acknowledge relationships not directly modeled.

We must place the cross-lagged panel model of social capital in a reasonable baseline model incorporating relevant social, economic, demographic and ecological controls. The project will therefore also identify, collect, and compile additional control variables critical to appropriate statistical modeling. I will include variables such as population, rural-urban continuum code, average age, percent high school graduates, minority population, crime, vacant/rented housing units, single parent households, unionization rate, and access to markets. Of particular interest to the social capital variables, I can obtain the percent of residents with a "long commute," and whether they drive alone.

ENDNOTES

1 It is possible that not all counties will support small area estimation. Based on other studies that use surveys like the Center for Disease Control's Behavioral Risk Factor Surveillance System to estimate county-level averages, we should be able to get estimates for over 2000 counties.

2 Note that it is also possible to separately count organizations like human rights organizations or environmental organizations, which would allow more specific hypothesis testing.

3 Once all data is collected and merged with outcomes, it will be trivial to investigate highly specific and interesting hypotheses. For example, in partnering with CNCS, we could pull out the Americorps variable separately and ask specific questions such as "does national service in a community contribute to the creation of job opportunities?" or "does national service in a community contribute to an increase in women-, minority-, or veteran-owned businesses?"

4 I have been in contact with Meetup and they have expressed interest in sharing their data to facilitate the measurement of social capital which would simplify data collection.

5 Google+ lists a series of synonyms to each category so that spelling and wording need not be exact.

6 Although it cannot be part of the longitudinal measure, I also intend to investigate the new survey questions available in the American Housing Survey Neighborhood Social Capital Module.

7 These could also be modeled as influencing the final time period, or a set of controls from 2008 could influence the last time period, modeling will determine the best approach.

WORK PLAN

Fall 2015- Data collection / cleaning of CPS, Census, CNCS, and IRS data

Spring 2016 Data collection / cleaning of economic and health outcomes data; Web-scraping of Meetup and Google+ data; Begin small area estimation for U.S. counties

Summer 2016 Complete small area estimation for U.S. counties

Fall 2016 Begin measurement models (Confirmatory Factor Analyses); Continued web-scraping of

Meetup and Google+ data; Year 1 progress report to CNCS

Spring 2017 Complete measurement models (Confirmatory Factor Analyses);Develop social capital scale for three longitudinal time points;Develop social capital scale for future county-level tracking

Summer 2017 Begin writing papers; Deposit social capital scale with county data aggregators (e.g., NACo); Begin development of data portal for county officials

Fall 2017 Begin longitudinal cross-lagged panel analyses; finalize data portal for county officials; Continued web-scraping of Meetup and Google+ data; Year 2 progress report to CNCS

Spring 2018 Complete longitudinal cross-lagged panel analyses

Summer 2018 Begin writing research briefs on social capital and its outcomes

Fall 2018 Final report to CNCS; Writing and dissemination continues beyond end of grant

Dissemination Plan

I plan to disseminate the results to: (1) the Corporation for National and Community Service and other agencies; (2) academic researchers; (3) national and local policy makers; (4) community-based organizations; and (5) the general public. To begin, through close work with CNCS throughout the three year project, progress reports, and the final report, the Corporation for National and Community Service will get input into the social capital scale and the findings from the longitudinal analyses. Working with CNCS, I can also answer specific research questions that arise, such as any related to Americorps, or which CPS civic engagement questions combine best with administrative and digital data. I have a strong prior record of dissemination of results of research to academics through conference presentations, publications in academic journals, and publication of books. I will disseminate my findings to an academic and professional audience thorough these channels, with particular attention to presenting at the Association for Research on Nonprofit Organization and Voluntary Action (ARNOVA) conference and in its journal, Nonprofit and Voluntary Sector Quarterly. To reach practitioners, I plan to present work at the National Association for Counties (NACo) annual conference. NACo links county government officials together to exchange information and ideas. The national conference has a host of educational workshops that present new research findings for counties. NACo also has a robust blog and news distribution network that I will partner with to disseminate my research findings to county officials and the general public. Further, working with CNCS, I plan to provide the county-level social capital measure to a range of data aggregators. For example, the NACo County Explorer maps county data on a range of indicators and could easily incorporate social capital. I could also provide the data to the County Health Rankings project at the University of Wisconsin. I will finally create an online portal (possibly on the CNCS

website) to the longitudinal data on social capital at the county level. Using the portal, researchers, practitioners, and the public could get data from earlier time points, track change in social capital over time for each county, and see up-to-date estimates of social capital for their area. In addition to academic reports, the UT research team will write research briefings on the results of the economic and health longitudinal analyses so that county officials and community partners can have solid scientific evidence for planning interventions.

Organizational Capability

The PI for the project, Pamela Paxton, is a well-respected and highly-cited social capital scholar. Over the last fifteen years she has published numerous influential articles on the measurement of social capital (e.g., Paxton 1999, 2007), the reciprocal relationship between social capital and outcomes like democracy (e.g., Paxton 2002), and the causal relationship between trust and associations (e.g., Glanville, Andersson and Paxton 2013). She was a member of the National Research Council panel that produced the report Civic Engagement and Social Cohesion: Measuring Dimensions of Social Capital to Inform Policy.

Dr. Paxton has successfully overseen numerous large government grants. These were multi-year data collection and analysis projects much like the one proposed here. She is a well-known quantitative methodologist, with the skills and experience to undertake the analyses proposed. She has published multiple articles in the area of Structural Equation Modeling and Confirmatory Factor Analysis and a book on nonrecursive models (Paxton, Hipp, and Marquart-Pyatt 2011). She also taught at the Inter-University Consortium for Political and Social Research (ICPSR) Summer Training Program in Advanced Statistical Techniques for many years.

The project will have available the resources of the Population Research Center (PRC) of the University of Texas at Austin. The PRC provides research support to principal investigators via administration and computing services. For example, the PRC computing services provide the highest quality computing and infrastructure to researchers with the highest possible efficiency and security. The PRC has administrative support to conduct this project successfully. Finally, the project will have the resources of the University of Texas at Austin -- one of the preeminent research universities in the world.

Cost-Effectiveness and Budget Adequacy

The proposed project is quite cost effective, with a budget almost entirely devoted to personnel (salary, fringe, and tuition). The project requests two graduate research assistants (GRA) in Year 1 and one

GRA in Years 2-3. The GRAs will assist the PI with data collection, executing programs, and performing other analytical and practical tasks related to the goals of the project. The GRAs will also assist in producing publishable articles and policy reports. A network analyst and an undergraduate research assistant will help complete all aspects of the proposed research. For the extensive data collection and analyses proposed, this research team is of reasonable size. A few additional costs-travel to academic and practitioner conferences, purchase of the NCCS data, and a computer to be dedicated to digital downloading and scraping-are a minor portion of the budget. Please also note that the first year¿s budget, with its significant data collection and consolidation requirements, requests two research assistants, which is why it is $130,000. Years 2 and 3 request only one research assistant and our estimate of the cost consequently reduced: to $78,000 in year 2 and $75,000 in year 3.

Executive Summary

How can local administrative or digital networking data complement and extend our existing survey measures of social capital and civic engagement at the community level? Does social capital at the community level influence important economic and health outcomes? Or does the economic well-being or health of a community influence levels of social capital? This proposed project addresses these questions and others, as recommended by the National Research Council report, Civic Engagement and Social Cohesion: Measuring Dimensions of Social Capital to Inform Policy. Using confirmatory factor analysis, the project would test new county-level measures of social capital and civic engagement drawn from the IRS, the Census, CNCS, Meetup.com and Google and integrate them with existing measures drawn largely from supplements to the Current Population Survey. Then, using a longitudinal cross-lagged panel design, the project would test whether county-level social capital influences several important economic and health outcomes while acknowledging the likely reciprocal relationship from economic well-being and health back to social capital. The Corporation for National and Community Service, academic researchers, and local politicians, administrators, activists, and citizens would all benefit from a rigorous county-level measure of social capital that can be tracked over time and related to important social, economic, and health outcomes.